

[Home](#) | [Login](#) | [Logout](#) | [Access Information](#) | [Alerts](#) |

Welcome United States Patent and Trademark Office

Search Results**BROWSE****SEARCH****IEEE Xplore GUIDE**

Results for "((computer vision' and 'three-dimensional' and location and feature and surface)<in>metadata..."

[e-mail](#)

Your search matched 2 of 1540244 documents.

A maximum of 100 results are displayed, 25 to a page, sorted by **Relevance in Descending order**.» **Search Options**[View Session History](#)[New Search](#)**Modify Search** [Search](#)» **Key****IEEE JNL** IEEE Journal or Magazine**IET JNL** IET Journal or Magazine**IEEE CNF** IEEE Conference Proceeding**IET CNF** IET Conference Proceeding**IEEE STD** IEEE Standard Check to search only within this results setDisplay Format: Citation Citation & Abstract[view selected items](#) [Select All](#) [Deselect All](#) 1. **Modeling arbitrary objects based on geometric surface conformity**

Izquierdo, E.; Xiaohua Feng;
Circuits and Systems for Video Technology, IEEE Transactions on
Volume 9, Issue 2, March 1999 Page(s):336 - 352
Digital Object Identifier 10.1109/76.752100

[AbstractPlus](#) | [References](#) | [Full Text: PDF\(1064 KB\)](#) | [IEEE JNL Rights and Permissions](#) 2. **A methodology for extracting objective color from images**

Powell, M.W.; Sarkar, S.; Goldgof, D.B.; Ivanov, K.;
Systems, Man and Cybernetics, Part B, IEEE Transactions on
Volume 34, Issue 5, Oct. 2004 Page(s):1964 - 1978
Digital Object Identifier 10.1109/TSMCB.2004.832177

[AbstractPlus](#) | [References](#) | [Full Text: PDF\(1856 KB\)](#) | [Multimedia IEEE JNL Rights and Permissions](#)[Help](#) [Contact Us](#) [Privacy &](#)

© Copyright 2006 IEEE -

Indexed by
 Inspec


[Home](#) | [Login](#) | [Logout](#) | [Access Information](#) | [Alerts](#) |

Welcome United States Patent and Trademark Office

Search Results**BROWSE****SEARCH****IEEE XPLORE GUIDE**

Results for "((computer vision' and 'three-dimensional' and feature and orientation and surface)<in>me..."

 e-mail

Your search matched 6 of 1540244 documents.

A maximum of 100 results are displayed, 25 to a page, sorted by **Relevance** in **Descending** order.**» Search Options**[View Session History](#)[New Search](#)**Modify Search**

((computer vision' and 'three-dimensional' and feature and orientation and surface)<in>me...</in>

 [Search](#) Check to search only within this results setDisplay Format: Citation Citation & Abstract
 [Select All](#) [Deselect All](#)
» Key

IEEE JNL IEEE Journal or Magazine

IET JNL IET Journal or Magazine

IEEE CNF IEEE Conference Proceeding

IET CNF IET Conference Proceeding

IEEE STD IEEE Standard

1. First order augmentation to tensor voting for boundary inference and mu
in 3D

Wai-Shun Tong; Chi-Keung Tang; Mordohai, P.; Medioni, G.;
Pattern Analysis and Machine Intelligence, IEEE Transactions on
 Volume 26, Issue 5, May 2004 Page(s):594 - 611
 Digital Object Identifier 10.1109/TPAMI.2004.1273934

[AbstractPlus](#) | [References](#) | Full Text: [PDF\(3034 KB\)](#) [IEEE JNL](#)
[Rights and Permissions](#)

2. A methodology for extracting objective color from images

Powell, M.W.; Sarkar, S.; Goldgof, D.B.; Ivanov, K.;
Systems, Man and Cybernetics, Part B, IEEE Transactions on
 Volume 34, Issue 5, Oct. 2004 Page(s):1964 - 1978
 Digital Object Identifier 10.1109/TSMCB.2004.832177

[AbstractPlus](#) | [References](#) | Full Text: [PDF\(1856 KB\)](#) | [Multimedia](#) [IEEE JNL](#)
[Rights and Permissions](#)

3. Invariants of three-dimensional contours

Lin, C.-S.;
Computer Vision and Pattern Recognition, 1988. Proceedings CVPR '88., Com
Conference on
 5-9 June 1988 Page(s):286 - 290
 Digital Object Identifier 10.1109/CVPR.1988.196250

[AbstractPlus](#) | Full Text: [PDF\(220 KB\)](#) [IEEE CNF](#)
[Rights and Permissions](#)

4. Three-dimensional inspection of ball grid array using laser vision system

Pyunghyun Kim; Sehun Rhee;
Electronics Packaging Manufacturing, IEEE Transactions on [see also Compo
and Manufacturing Technology, Part C: Manufacturing, IEEE Transactions on]
 Volume 22, Issue 2, April 1999 Page(s):151 - 155
 Digital Object Identifier 10.1109/6104.778175

[AbstractPlus](#) | [References](#) | Full Text: [PDF\(152 KB\)](#) [IEEE JNL](#)
[Rights and Permissions](#)

5. Registration without correspondences

Fua, P.; Leclerc, Y.G.;
Computer Vision and Pattern Recognition, 1994. Proceedings CVPR '94.. 199

(28)

Society Conference on
21-23 June 1994 Page(s):121 - 128
Digital Object Identifier 10.1109/CVPR.1994.323818
[AbstractPlus](#) | Full Text: [PDF\(700 KB\)](#) IEEE CNF
[Rights and Permissions](#)



6. Recognition of partially occluded 3D objects

Ming-Hong Chan; Hung-Tat Tsui;
[Computers and Digital Techniques, IEE Proceedings-](#)
Volume 136, Issue 2, Mar 1989 Page(s):124 - 141
[AbstractPlus](#) | Full Text: [PDF\(1768 KB\)](#) IET JNL

(29)

[Help](#) [Contact Us](#) [Privacy &](#)

© Copyright 2006 IEEE -

Indexed by
 Inspec®



[Subscribe \(Full Service\)](#) [Register \(Limited Service, Free\)](#) [Login](#)

Search: The ACM Digital Library The Guide

+ "computer vision" + "three-dimensional" feature location orientation

SEARCH

THE ACM DIGITAL LIBRARY

[Feedback](#) [Report a problem](#) [Satisfaction survey](#)

Terms used [computer vision](#) [three-dimensional](#) [feature location](#) [orientation](#) [surface](#)

Found 1,222 of 199,787

Sort results by:

publication date

[Save results to a Binder](#)

Try an [Advanced Search](#)

Display results

expanded form

[Search Tips](#)

Try this search in [The ACM Guide](#)

Open results in a new window

Results 101 - 120 of 200 Result page: [previous](#) [1](#) [2](#) [3](#) [4](#) [5](#) **6** [7](#) [8](#) [9](#) [10](#) [next](#)

Best 200 shown

Relevance scale

101 Session P1: medical visualization: Direct surface extraction from 3D freehand ultrasound images

Youwei Zhang, Robert Rohling, Dinesh K. Pai

October 2002 **Proceedings of the conference on Visualization '02 VIS '02**

Publisher: IEEE Computer Society

Full text available: [pdf\(1.10 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

This paper presents a new technique for the extraction of surfaces from 3D ultrasound data. Surface extraction from ultrasound data is challenging for a number of reasons including noise and artifacts in the images and non-uniform data sampling. A method is proposed to fit an approximating radial basis function to the group of data samples. An explicit surface is then obtained by iso-surfacing the function. In most previous 3D ultrasound research, a pre-processing step is taken to interpolate th ...

Keywords: 3D freehand ultrasound, direct surface extraction, isosurface, radial basis functions, ultrasound, unstructured data

102 Shape distributions

Robert Osada, Thomas Funkhouser, Bernard Chazelle, David Dobkin
October 2002 **ACM Transactions on Graphics (TOG)**, Volume 21 Issue 4

Publisher: ACM Press

Full text available: [pdf\(3.46 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Measuring the similarity between 3D shapes is a fundamental problem, with applications in computer graphics, computer vision, molecular biology, and a variety of other fields. A challenging aspect of this problem is to find a suitable shape signature that can be constructed and compared quickly, while still discriminating between similar and dissimilar shapes. In this paper, we propose and analyze a method for computing shape signatures for arbitrary (possibly degenerate) 3D polygonal models. The ...

Keywords: Shape analysis, shape representation

103 Modelling with implicit surfaces that interpolate

Greg Turk, James F. O'brien

 October 2002 **ACM Transactions on Graphics (TOG)**, Volume 21 Issue 4

Publisher: ACM Press

Full text available:  pdf(1.54 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We introduce new techniques for modelling with *interpolating implicit surfaces*. This form of implicit surface was first used for problems of surface reconstruction and shape transformation, but the emphasis of our work is on model creation. These implicit surfaces are described by specifying locations in 3D through which the surface should pass, and also identifying locations that are interior or exterior to the surface. A 3D implicit function is created from these constraints using a var ...

Keywords: Implicit surfaces, function interpolation, modeling, thin-plate techniques

104 Heads, faces, hair: Head shop: generating animated head models with anatomical structure

 Kolja Kähler, Jörg Haber, Hitoshi Yamauchi, Hans-Peter Seidel

July 2002 **Proceedings of the 2002 ACM SIGGRAPH/Eurographics symposium on Computer animation SCA '02**

Publisher: ACM Press

Full text available:  pdf(9.67 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a versatile construction and deformation method for head models with anatomical structure, suitable for real-time physics-based facial animation. The model is equipped with landmark data on skin and skull, which allows us to deform the head in anthropometrically meaningful ways. On any deformed model, the underlying muscle and bone structure is adapted as well, such that the model remains completely animatable using the same muscle contraction parameters. We employ this general techni ...

Keywords: biological modeling, deformations, facial animation, geometric modeling, morphing, physically based animation

105 Level set surface editing operators

 Ken Museth, David E. Breen, Ross T. Whitaker, Alan H. Barr

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH '02**, Volume 21 Issue 3

Publisher: ACM Press

Full text available:  pdf(11.19 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a level set framework for implementing editing operators for surfaces. Level set models are deformable implicit surfaces where the deformation of the surface is controlled by a speed function in the level set partial differential equation. In this paper we define a collection of speed functions that produce a set of surface editing operators. The speed functions describe the velocity at each point on the evolving surface in the direction of the surface normal. All of the information n ...

Keywords: deformations, geometric modeling, implicit surfaces, shape blending

106 Least squares conformal maps for automatic texture atlas generation

 Bruno Lévy, Sylvain Petitjean, Nicolas Ray, Jérôme Maillot

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual**

conference on Computer graphics and interactive techniques SIGGRAPH

'02, Volume 21 Issue 3

Publisher: ACM Press

Full text available:  pdf(8.23 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A Texture Atlas is an efficient color representation for 3D Paint Systems. The model to be textured is decomposed into charts homeomorphic to discs, each chart is parameterized, and the unfolded charts are packed in texture space. Existing texture atlas methods for triangulated surfaces suffer from several limitations, requiring them to generate a large number of small charts with simple borders. The discontinuities between the charts cause artifacts, and make it difficult to paint large areas w ...

Keywords: paint systems, polygonal modeling, texture mapping

107 Feature-based light field morphing

 Zhunping Zhang, Lifeng Wang, Baining Guo, Heung-Yeung Shum

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH**

'02, Volume 21 Issue 3

Publisher: ACM Press

Full text available:  pdf(7.77 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a feature-based technique for morphing 3D objects represented by light fields. Our technique enables morphing of image-based objects whose geometry and surface properties are too difficult to model with traditional vision and graphics techniques. Light field morphing is not based on 3D reconstruction; instead it relies on *ray correspondence*, i.e., the correspondence between rays of the source and target light fields. We address two main issues in light field morphing: feature s ...

Keywords: 3D morphing, feature polygons, global visibility map, light field, ray correspondence, ray-space warping

108 Light field mapping: efficient representation and hardware rendering of surface light

 fields

Wei-Chao Chen, Jean-Yves Bouguet, Michael H. Chu, Radek Grzeszczuk

July 2002 **ACM Transactions on Graphics (TOG) , Proceedings of the 29th annual conference on Computer graphics and interactive techniques SIGGRAPH**

'02, Volume 21 Issue 3

Publisher: ACM Press

Full text available:  pdf(7.79 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A light field parameterized on the surface offers a natural and intuitive description of the view-dependent appearance of scenes with complex reflectance properties. To enable the use of surface light fields in real-time rendering we develop a compact representation suitable for an accelerated graphics pipeline. We propose to approximate the light field data by partitioning it over elementary surface primitives and factorizing each part into a small set of lower-dimensional functions. We show th ...

Keywords: compression algorithms, image-based rendering, rendering hardware, texture mapping

109 Poster Session: Using shape distributions to compare solid models



Cheuk Yiu Ip, Daniel Lapadat, Leonard Sieger, William C. Regli

June 2002 **Proceedings of the seventh ACM symposium on Solid modeling and applications SMA '02**

Publisher: ACM Press

Full text available: [pdf\(237.71 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Our recent work has described how to use feature and topology information to compare 3-D solid models. In this work we describe a new method to compare solid models based on shape distributions. Shape distribution functions are common in the computer graphics and computer vision communities. The typical use of shape distributions is to compare 2-D objects, such as those obtained from imaging devices (cameras and other computer vision equipment). Recent work has applied shape distribution metri ...

Keywords: 3D search, shape matching, shape recognition, solid model databases

110 Improved construction of vertical decompositions of three-dimensional arrangements



Hayim Shaul, Dan Halperin

June 2002 **Proceedings of the eighteenth annual symposium on Computational geometry SCG '02**

Publisher: ACM Press

Full text available: [pdf\(322.54 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present new results concerning the refinement of three-dimensional arrangements by vertical decompositions. First, we describe a new output-sensitive algorithm for computing the vertical decomposition of arrangements of n triangles in $O(n \log^2 n + V \log n)$ time, where V is the complexity of the decomposition. This improves significantly over the best previously known algorithms. Next, we propose an alternative sparser refinement, which w ...

Keywords: arrangements, exact computation, geometric software, vertical decomposition

111 Alternate rendering pipeline: Cartoon dioramas in motion



Ramesh Raskar, Remo Ziegler, Thomas Willwacher

June 2002 **Proceedings of the 2nd international symposium on Non-photorealistic animation and rendering NPAR '02**

Publisher: ACM Press

Full text available: [pdf\(739.52 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Cartoon animations delight the audience with moving characters but they remain on a flat 2D screen. The cartoon dioramas, on the other hand, are detailed, three-dimensional and allow physical interaction but they are static. We present techniques to combine the two in some limited cases. We illuminate static physical models with projectors. The images are generated with real time three dimensional computer graphics. We describe a system to demonstrate various visual effects such as non-photoreal ...

Keywords: augmented reality, immersive environments, non-photorealistic rendering, perception, virtual reality

112 A survey of methods for recovering quadrics in triangle meshes

Sylvain Petitjean

June 2002 **ACM Computing Surveys (CSUR)**, Volume 34 Issue 2



Publisher: ACM Press

Full text available: pdf(3.91 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In a variety of practical situations such as reverse engineering of boundary representation from depth maps of scanned objects, range data analysis, model-based recognition and algebraic surface design, there is a need to recover the shape of visible surfaces of a dense 3D point set. In particular, it is desirable to identify and fit simple surfaces of known type wherever these are in reasonable agreement with the data. We are interested in the class of quadric surfaces, that is, algebraic surfa ...

Keywords: Data fitting, geometry enhancement, local geometry estimation, mesh fairing, shape recovery

113 Modelling urban environments: Modeling and visualizing the cultural heritage data set



Christopher Zach, Andreas Klaus, Joachim Bauer, Konrad Karner, Markus Grabner
November 2001 **Proceedings of the 2001 conference on Virtual reality, archeology, and cultural heritage VAST '01**

Publisher: ACM Press

Full text available: pdf(4.95 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The inner city (Old Town) of Graz will be the European cultural capital in 2003. In this paper we present preliminary results on the reconstruction and visualization of this kind of cultural heritage data. Starting with a simple block model obtained by converting 2 1/2 dimensional GIS (geographic information system) data we focus on the image based modeling of the facades. Herein we illustrate a robust search for corresponding points to estimate the relative orientation between image pairs. Addit ...

114 Archiving, digital collections, and analysis: Image-based 3D acquisition of



archaeological heritage and applications

Marc Pollefeys, Luc Van Gool, Maarten Vergauwen, Kurt Cornelis, Frank Verbiest, Jan Tops
November 2001 **Proceedings of the 2001 conference on Virtual reality, archeology, and cultural heritage VAST '01**

Publisher: ACM Press

Full text available: pdf(1.13 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper an approach is presented that obtains virtual models from sequences of images. The system can deal with uncalibrated image sequences acquired with a hand-held camera. Based on tracked or matched features the relations between multiple views are computed. From this both the structure of the scene and the motion of the camera are retrieved. The ambiguity on the reconstruction is restricted from projective to metric through auto-calibration. A flexible multi-view stereo matching schem ...

Keywords: image-based modelling, large scale terrain modelling, site reconstruction, virtual archaeology

115 Session E: Interaction in mixed realities: Interacting with spatially augmented reality



Ramesh Raskar, Kok-Lim Low

November 2001 **Proceedings of the 1st international conference on Computer graphics, virtual reality and visualisation AFRIGRAPH '01**

Publisher: ACM Press

Full text available: [pdf\(940.14 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

We present the notion of projector-based *spatially augmented reality* (SAR), and explore how it can be used as an effective user interface to enable users to easily and naturally interact with their real physical environment and the virtual environment. In SAR, the user's physical environment is illuminated with images projected from the projectors. We then describe a framework that can easily incorporate different types of interactions on a continuum of display surfaces and input devices. ...

116 Session P1: point-based rendering and modeling: Point set surfaces

Marc Alexa, Johannes Behr, Daniel Cohen-Or, Shachar Fleishman, David Levin, Claudio T. Silva

October 2001 **Proceedings of the conference on Visualization '01 VIS '01**

Publisher: IEEE Computer Society

Full text available: [pdf\(5.84 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)
[Publisher Site](#)

We advocate the use of point sets to represent shapes. We provide a definition of a smooth manifold surface from a set of points close to the original surface. The definition is based on local maps from differential geometry, which are approximated by the method of moving least squares (MLS). We present tools to increase or decrease the density of the points, thus, allowing an adjustment of the spacing among the points to control the fidelity of the representation. To display the point set surfac ...

Keywords: 3D acquisition, moving least squares, point sample rendering, surface representation and reconstruction

117 Session P9: interactive volume rendering: Interactive volume rendering using multi-dimensional transfer functions and direct manipulation widgets

Joe Kniss, Gordon Kindlmann, Charles Hansen

October 2001 **Proceedings of the conference on Visualization '01 VIS '01**

Publisher: IEEE Computer Society

Full text available: [pdf\(995.63 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Most direct volume renderings produced today employ one-dimensional transfer functions, which assign color and opacity to the volume based solely on the single scalar quantity which comprises the dataset. Though they have not received widespread attention, multi-dimensional transfer functions are a very effective way to extract specific material boundaries and convey subtle surface properties. However, identifying good transfer functions is difficult enough in one dimension, let alone two or thr ...

Keywords: direct manipulation widgets, direct volume rendering, graphics hardware, multi-dimensional transfer functions, volume visualization

118 Searching in high-dimensional spaces: Index structures for improving the performance of multimedia databases

Christian Böhm, Stefan Berchtold, Daniel A. Keim

September 2001 **ACM Computing Surveys (CSUR)**, Volume 33 Issue 3

Publisher: ACM Press

Full text available: [pdf\(1.39 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

During the last decade, multimedia databases have become increasingly important in many application areas such as medicine, CAD, geography, and molecular biology. An

important research issue in the field of multimedia databases is the content-based retrieval of similar multimedia objects such as images, text, and videos. However, in contrast to searching data in a relational database, a content-based retrieval requires the search of similar objects as a basic functionality of the database system ...

Keywords: Index structures, indexing high-dimensional data, multimedia databases, similarity search

119 Computing curricula 2001

 September 2001 **Journal on Educational Resources in Computing (JERIC)**

Publisher: ACM Press

Full text available:  pdf(613.63 KB)
 html(2.78 KB)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

120 Scanning physical interaction behavior of 3D objects

 Dinesh K. Pai, Kees van den Doel, Doug L. James, Jochen Lang, John E. Lloyd, Joshua L. Richmond, Som H. Yau

August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques SIGGRAPH '01**

Publisher: ACM Press

Full text available:  pdf(1.52 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

We describe a system for constructing computer models of several aspects of physical interaction behavior, by scanning the response of real objects. The behaviors we can successfully scan and model include deformation response, contact textures for interaction with force-feedback, and contact sounds. The system we describe uses a highly automated robotic facility that can scan behavior models of whole objects. We provide a comprehensive view of the modeling process, including selection of mod ...

Keywords: behavioral animation, deformations, haptics, multimedia, physically based modeling, robotics, sound visualization

Results 101 - 120 of 200

Result page: [previous](#) [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2007 ACM, Inc.

[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)


[Subscribe \(Full Service\)](#) [Register \(Limited Service, Free\)](#) [Login](#)

 Search: The ACM Digital Library The Guide

+"computer vision" +"three-dimensional" feature location orientation sur...

THE ACM DIGITAL LIBRARY


[Feedback](#) [Report a problem](#) [Satisfaction survey](#)

 Terms used [computer vision](#) [three-dimensional](#) [feature location](#) [orientation](#) [surface](#)

Found 1,222 of 199,787

 Sort results by publication date Save results to a Binder

[Try an Advanced Search](#)
[Try this search in The ACM Guide](#)

 Display results expanded form Open results in a new window

 Results 121 - 140 of 200 Result page: [previous](#) [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)
 Best 200 shown

Relevance scale

121 Synthesizing bidirectional texture functions for real-world surfaces

Xinguo Liu, Yizhou Yu, Heung-Yeung Shum

 August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques SIGGRAPH '01**
Publisher: ACM Press

 Full text available: [pdf\(4.30 MB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper, we present a novel approach to synthetically generating bidirectional texture functions (BTFs) of real-world surfaces. Unlike a conventional two-dimensional texture, a BTF is a six-dimensional function that describes the appearance of texture as a function of illumination and viewing directions. The BTF captures the appearance change caused by visible small-scale geometric details on surfaces. From a sparse set of images under different viewing/lighting settings, our approach g ...

Keywords: bidirectional texture functions, image-based rendering, photometric stereo, reflectance and shading models, shape-from-shading, texture synthesis

122 Plenoptic stitching: a scalable method for reconstructing 3D interactive walk throughs

Daniel G. Aliaga, Ingrid Carlberg

 August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques SIGGRAPH '01**
Publisher: ACM Press

 Full text available: [pdf\(16.67 MB\)](#)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Interactive walkthrough applications require detailed 3D models to give users a sense of immersion in an environment. Traditionally these models are built using computer-aided design tools to define geometry and material properties. But creating detailed models is time-consuming and it is also difficult to reproduce all geometric and photometric subtleties of real-world scenes. Computer vision attempts to alleviate this problem by extracting geometry and photogrammetry from images of the real ...

Keywords: image-based rendering, interactive walkthroughs, omnidirectional, plenoptic function, virtual environments

123 Feature sensitive surface extraction from volume data

 Leif P. Kobbelt, Mario Botsch, Ulrich Schwanecke, Hans-Peter Seidel

August 2001 **Proceedings of the 28th annual conference on Computer graphics and interactive techniques SIGGRAPH '01**

Publisher: ACM Press

Full text available:  pdf(2.05 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The representation of geometric objects based on volumetric data structures has advantages in many geometry processing applications that require, e.g., fast surface interrogation or boolean operations such as intersection and union. However, surface based algorithms like shape optimization (fairing) or freeform modeling often need a topological manifold representation where neighborhood information *within* the surface is explicitly available. Consequently, it is necessary to find effect ...

124 Intelligent balloon: a subdivision-based deformable model for surface reconstruction

 **of arbitrary topology**

Ye Duan, Hong Qin

May 2001 **Proceedings of the sixth ACM symposium on Solid modeling and applications SMA '01**

Publisher: ACM Press

Full text available:  pdf(1.44 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper, we develop a novel subdivision-based model—Intelligent Balloon—which is capable of recovering arbitrary, complicated shape geometry as well as its unknown topology simultaneously. Our Intelligent Balloon is a parameterized subdivision surface whose geometry and its deformable behaviors are governed by the principle of energy minimization. Our algorithm starts from a simple seed model (of genus zero) that can be arbitrarily initiated by users within regions of interest ...

Keywords: biomedical applications, energy optimization, geometric and topological representations, reverse engineering

125 Scanline surfacing: building separating surfaces from planar contours

David Weinstein

October 2000 **Proceedings of the conference on Visualization '00 VIS '00**

Publisher: IEEE Computer Society Press

Full text available:  pdf(2.16 MB)

Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

This paper presents several low-latency mixed-timing FIFO designs that interface systems on a chip working at different speeds. The connected systems can be either synchronous or asynchronous. The designs are then adapted to work between systems with very long interconnection delays, by migrating a single-clock solution by Carloni et al. (for "latency-insensitive" protocols) to mixed-timing domains. The new designs can be made arbitrarily robust with regard to metastability and ...

Keywords: planar contours, scanline, separating surfaces, surface construction

126 Anisotropic geometric diffusion in surface processing

U. Clarenz, U. Diewald, M. Rumpf

October 2000 **Proceedings of the conference on Visualization '00 VIS '00**

Publisher: IEEE Computer Society Press

Full text available:  pdf(4.65 MB)

Additional Information: [full citation](#), [citations](#), [index terms](#)

Keywords: geometric modeling, image processing, numerical analysis

127 Surface light fields for 3D photography

 Daniel N. Wood, Daniel I. Azuma, Ken Aldinger, Brian Curless, Tom Duchamp, David H. Salesin, Werner Stuetzle

July 2000 **Proceedings of the 27th annual conference on Computer graphics and interactive techniques SIGGRAPH '00**

Publisher: ACM Press/Addison-Wesley Publishing Co.

Full text available:  pdf(4.61 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A surface light field is a function that assigns a color to each ray originating on a surface. Surface light fields are well suited to constructing virtual images of shiny objects under complex lighting conditions. This paper presents a framework for construction, compression, interactive rendering, and rudimentary editing of surface light fields of real objects. Generalization of vector quantization and principal component analysis are used to construct a compressed repres ...

Keywords: 3D photography, function quantization, image-based rendering, light field, lumigraph, principal function analysis, surface light fields, view-dependent level-of-detail, wavelets

128 Image-based rendering: A new interface between computer vision and computer graphics

 Leonard McMillan, Steven Gortler
November 1999 **ACM SIGGRAPH Computer Graphics**, Volume 33 Issue 4

Publisher: ACM Press

Full text available:  pdf(1.24 MB) Additional Information: [full citation](#), [index terms](#)

129 Image-based modeling and lighting

 Paul E. Debevec
November 1999 **ACM SIGGRAPH Computer Graphics**, Volume 33 Issue 4

Publisher: ACM Press

Full text available:  pdf(1.94 MB) Additional Information: [full citation](#), [citations](#), [index terms](#)

130 Data clustering: a review

 A. K. Jain, M. N. Murty, P. J. Flynn
September 1999 **ACM Computing Surveys (CSUR)**, Volume 31 Issue 3

Publisher: ACM Press

Full text available:  pdf(636.24 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Clustering is the unsupervised classification of patterns (observations, data items, or feature vectors) into groups (clusters). The clustering problem has been addressed in many contexts and by researchers in many disciplines; this reflects its broad appeal and usefulness as one of the steps in exploratory data analysis. However, clustering is a difficult problem combinatorially, and differences in assumptions and contexts in different communities has made the transfer of useful generic co ...

Keywords: cluster analysis, clustering applications, exploratory data analysis, incremental clustering, similarity indices, unsupervised learning

131 A morphable model for the synthesis of 3D faces

◆ Volker Blanz, Thomas Vetter

July 1999 **Proceedings of the 26th annual conference on Computer graphics and interactive techniques SIGGRAPH '99**

Publisher: ACM Press/Addison-Wesley Publishing Co.

Full text available: [pdf\(2.76 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: computer vision, facial animation, facial modeling, morphing, photogrammetry, registration

132 Two methods for display of high contrast images

◆ Jack Tumblin, Jessica K. Hodgins, Brian K. Guenter

January 1999 **ACM Transactions on Graphics (TOG)**, Volume 18 Issue 1

Publisher: ACM Press

Full text available: [pdf\(10.28 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

High contrast images are common in night scenes and other scenes that include dark shadows and bright light sources. These scenes are difficult to display because their contrasts greatly exceed the range of most display devices for images. As a result, the image constraints are compressed or truncated, obscuring subtle textures and details. Humans view and understand high contrast scenes easily, "adapting" their visual response to avoid compression or truncation with no apparent ...

Keywords: adaptation, tone reproduction, visual appearance

133 Efficient algorithms for geometric optimization

◆ Pankaj K. Agarwal, Micha Sharir

December 1998 **ACM Computing Surveys (CSUR)**, Volume 30 Issue 4

Publisher: ACM Press

Full text available: [pdf\(577.74 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We review the recent progress in the design of efficient algorithms for various problems in geometric optimization. We present several techniques used to attack these problems, such as parametric searching, geometric alternatives to parametric searching, prune-and-search techniques for linear programming and related problems, and LP-type problems and their efficient solution. We then describe a wide range of applications of these and other techniques to numerous problems in geometric optim ...

Keywords: clustering, collision detection, linear programming, matrix searching, parametric searching, proximity problems, prune-and-search, randomized algorithms

134 Building perceptual textures to visualize multidimensional datasets

Christopher G. Healey, James T. Enns

October 1998 **Proceedings of the conference on Visualization '98 VIS '98**

Publisher: IEEE Computer Society Press

Full text available: [pdf\(1.62 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)
[Publisher Site](#)

Keywords: computer graphics, experimental design, human vision, multidimensional dataset, oceanography, perception, preattentive processing, scientific visualization, texture, typhoon

135 Understanding and constructing shared spaces with mixed-reality boundaries 

Steve Benford, Chris Greenhalgh, Gail Reynard, Chris Brown, Boriana Koleva
September 1998 **ACM Transactions on Computer-Human Interaction (TOCHI)**, Volume 5
Issue 3

Publisher: ACM Press

Full text available: [pdf\(2.50 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We propose an approach to creating shared mixed realities based on the construction of transparent boundaries between real and virtual spaces. First, we introduce a taxonomy that classifies current approaches to shared spaces according to the three dimensions of transportation, artificiality, and spatiality. Second, we discuss our experience of staging a poetry performance simultaneously within real and virtual theaters. This demonstrates the complexities involved in establishing social in ...

Keywords: CSCW, augmented reality, collaborative virtual environments, media-spaces, mixed reality, shared spaces, telepresence, video, virtual reality

136 Making faces 

Brian Guenter, Cindy Grimm, Daniel Wood, Henrique Malvar, Fredric Pighin
July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques SIGGRAPH '98**

Publisher: ACM Press

Full text available: [pdf\(1.70 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

137 Multiple viewpoint rendering 

Michael Halle
July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques SIGGRAPH '98**

Publisher: ACM Press

Full text available: [pdf\(3.89 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

138 Multiple-center-of-projection images 

Paul Rademacher, Gary Bishop
July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques SIGGRAPH '98**

Publisher: ACM Press

Full text available: [pdf\(1.47 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: image-based rendering, multiple-center-of-projection images

139 Synthesizing realistic facial expressions from photographs

 Frédéric Pighin, Jamie Hecker, Dani Lischinski, Richard Szeliski, David H. Salesin

July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques SIGGRAPH '98**

Publisher: ACM Press

Full text available:  pdf(276.04 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: facial animation, facial expression generation, facial modeling, morphing, photogrammetry, view-dependent texture-mapping

140 Layered depth images

 Jonathan Shade, Steven Gortler, Li-wei He, Richard Szeliski

July 1998 **Proceedings of the 25th annual conference on Computer graphics and interactive techniques SIGGRAPH '98**

Publisher: ACM Press

Full text available:  pdf(584.98 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Results 121 - 140 of 200

Result page: [previous](#) [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2007 ACM, Inc.

[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)